

## **ASX ANNOUNCEMENT**

#### 17 July 2014

#### **COMPANY SNAPSHOT**

**LODESTAR MINERALS LIMITED ABN:** 32 127 026 528

#### **CONTACT DETAILS**

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#### **CAPITAL STRUCTURE**

Shares on Issue: 222,233,215 (LSR)

**Options on Issue:** 9,750,000 (Unlisted)

ASX: LSR

#### **PROJECTS**

Peak Hill – Doolgunna: Base metals, gold



#### **LODESTAR CORPORATE PRESENTATION - JULY 2014**

Please find attached a copy of the latest corporate presentation by Lodestar Minerals Limited.

A copy of the presentation will also be available on the Company's website: www.lodestarminerals.com.au

**Bill Clayton** 

**Managing Director** 



# Targeting large gold and base metals opportunities on tectonic basin margins – Bryah district

**July 2014** 

## **Important Notices**



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#### **COMPETENT PERSON STATEMENT**

The information in this announcement that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Bill Clayton, who is a Competent Person and a Member of the Australian Institute of Geoscientists. Bill Clayton is Managing Director and a full-time employee of Lodestar Minerals Limited. Mr Clayton has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for the reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Clayton consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The information in this announcement that relates to Lodestar's previously released exploration results was disclosed under JORC code 2004 in ASX announcements dated 18 March 2013 and JORC Code 2012 in ASX announcements dated 4 June 2103 and 15 July 2014 and is available to view on the Lodestar website. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. The company confirms that the form and context in which the Competent person's findings are presented have not been materially modified from the original market announcement.

## **Investment Summary**



#### Explorer focused on a highly prospective and under-explored mineral province

- LSR has a unique regional perspective and geological interpretation, focused on identifying large base and precious metal systems on tectonic basin margins within the Peak Hill and Doolgunna region.
- LSR has been an active explorer in the eastern Bryah-Yerrida Basin since 2010. The region hosts a number of significant base and precious metal deposits.
- The Bryah Basin is a sought after exploration address. 2013/2014 has seen increasing corporate consolidation and exploration activity in the region.

## Ned's Creek (100% - 1100 sq km)

- Targeting a sedimentary copper system.
- LSR's geological interpretation and success on neighbouring tenements (Ventnor Resource's Thaduna and Sipa Resource's Enigma projects) provides increased confidence in geological model.

## Greenfield gold discovery at Contessa in 2013

- 7km gold anomalous trend with 700m covered by first pass aircore on 80m sections. Recent results confirm Contessa is part of a much larger and significant gold system.
- First aircore drill program returned exceptional results:

21m @ 3.0g/t Au, 5m @ 6.6g/t Au, 10m @ 5.6g/t Au (LSR:ASX release 18 March 2013 and 4 June 2013)

## ■ Imbin (100% - 1100 sq km under application)

- Project identified using LSR's recent re-interpretation of Proterozoic tectono-stratigraphic setting.
- A number of walk up copper-gold drill targets identified.

## **Corporate Overview**



## **Board and key consultants**

#### Non-Executive Chairman, Ross Taylor

 Chartered accountant with extensive experience in global investment banking and financial markets.

## Managing Director, Bill Clayton

 Geologist with over 20 years' experience in Western Australian greenfields exploration and project evaluation roles.

#### Non-Executive Director, David McArthur

 Accountant with broad range of experience in financial and corporate management of public listed companies gained over the past 28 years.

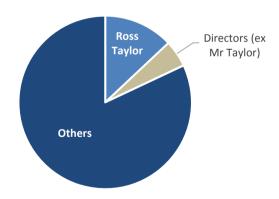
### Consultant, Paul Cranney

 Geologist with +10 years experience in Bryah Basin with Homestake and Perilya.

Capital Structure*	
ASX code	LSR
Shares on issue	222m
Share price	A\$0.02
Market capitalisation	A\$3.77m
Cash (31 Mar 2014)	A\$0.64m
Debt (31 Mar 2014)	A\$0.00m
Performance rights/options	9.75m

<sup>\*</sup>As at 15 July 2014

#### **Shareholders**



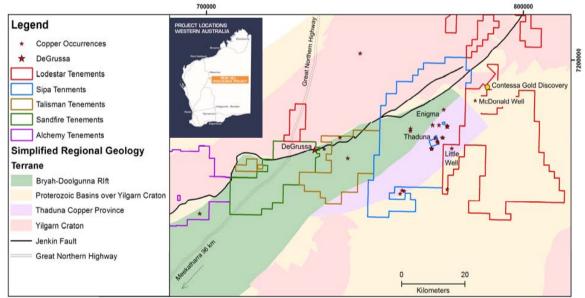
Ross Taylor 13% Directors (ex Mr Taylor) 5% Top 20: 37.5%

Source: Computershare Investor Services Pty Ltd

## **Bryah Basin – An increasingly active address**



- Increase in exploration activity in 2014
  - Recent exploration results and LSR's revised basin architecture have significant impacts on exploration & prospectivity.
- Consolidation of landholdings provides a clear value proposition for LSR shareholders
  - Sandfire Resources / Ventor Resources A\$9m¹
  - Sandfire Resources / Talisman Mining A\$15m<sup>2</sup>
  - Independence Group / Alchemy Resources A\$11.5m<sup>3</sup>
- The wider Bryah Basin is underexplored, particularly in the context of modern exploration methods:
  - Sandfire's DeGrussa discovered in 2009
  - Enigma deposit discovered by Sipa Resources in 2011
  - Lodestar's Contessa gold discovery in 2013



- 1. Sandfire \$3m payment for 35% of Thaduna & Green Dragon, \$6m 2 stage earn in 80% by funding exploration and studies (SFR: ASX released dated 25/10/2013)
- 2. Sandfire to earn 70% of Springfield and Halloween tenements by spending \$15m on exploration over 5 years with a minimum \$2m spend within 2 years (TLM: ASX release dated 20/12/2013)
- Independence to earn up to 80% of base metals projects on Alchemy leases by spending, \$500k within 12 months, \$6m within 5 years and fund first \$5m of DFS (ALY: ASX release dated 30/1/2014)

## **Lodestar on the Proterozoic Margin**



 Large landholding with +2,200km<sup>2</sup> along prospective northern basin margins.

#### Ned's Creek & Little Well copper prospects

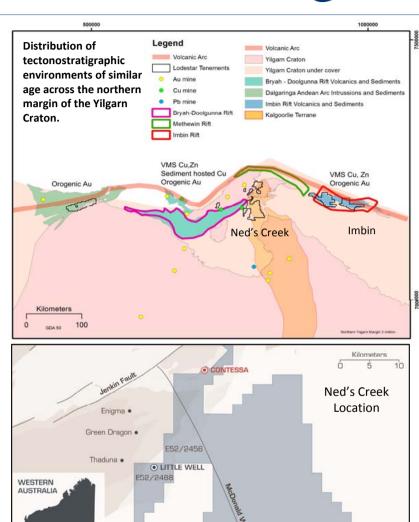
 Targeting large sedimentary hosted deposits on tectonic basin margin.

## Imbin copper-gold-zinc

- 1100 km<sup>2</sup> of underexplored of Bryah-age felsic and probable mafic volcanic rocks with strong Cu-Au and Zn geochemical anomalies .
- Historical mineralised drill holes which require follow up.
- Strong Zn anomalism in regional sampling.

#### Contessa gold prospect

 A large and significant Archaean hosted gold system within the Kalgoorlie Terrane.

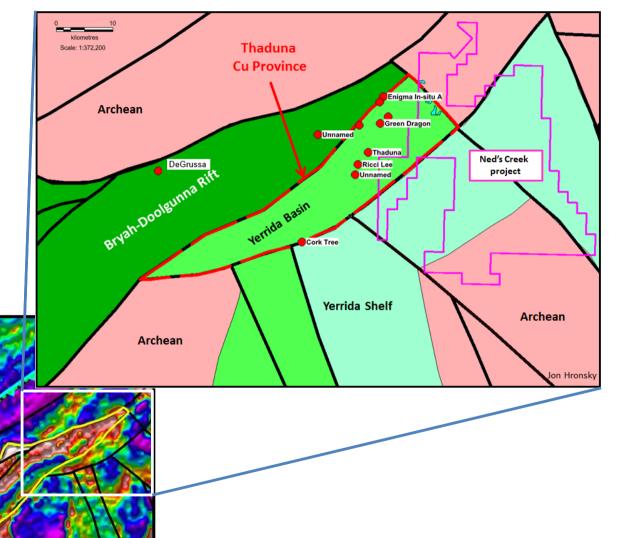


**NEDS CREEK** 

# **Bryah - Doolgunna Rift - southern margin**



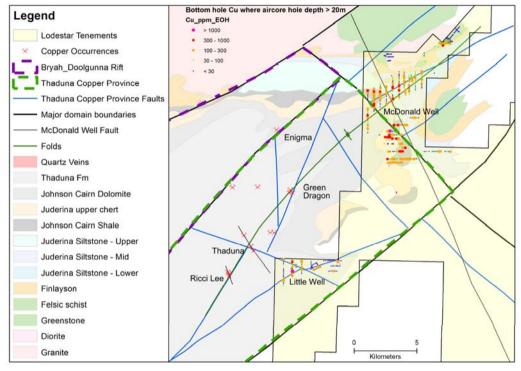
- Major tectonostratigraphic domains defined by Hronksy.
- Thaduna Copper Province flanks southern margin of the Bryah-Doolgunna Rift.
- Copper has a spatial relationship with major domain-bounding structures.



## **Ned's Creek base metals**



- Targeting sediment-hosted copper systems on boundary of the Bryah-Doolgunna Rift.
- The Thaduna Copper Province on the southern margin of the Bryah-Doolgunna Rift has significant potential for structurally controlled epigenetic copper mineralisation.
- Thaduna (Sandfire Resources) and Enigma (Sipa Resources) both exhibit significant copper oxide mineralisation sourced from sulphide mineralisation and represent large targets.

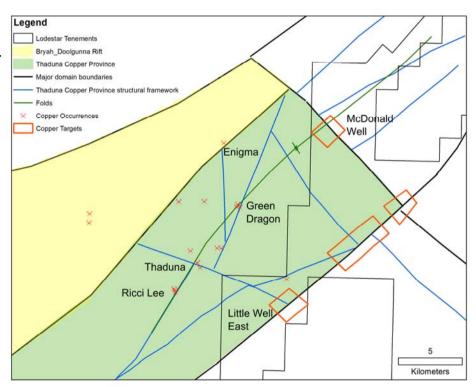


Bryah - Doolgunna Rift interpretation showing Thaduna Copper Province superimposed on geology

## **Ned's Creek base metals**



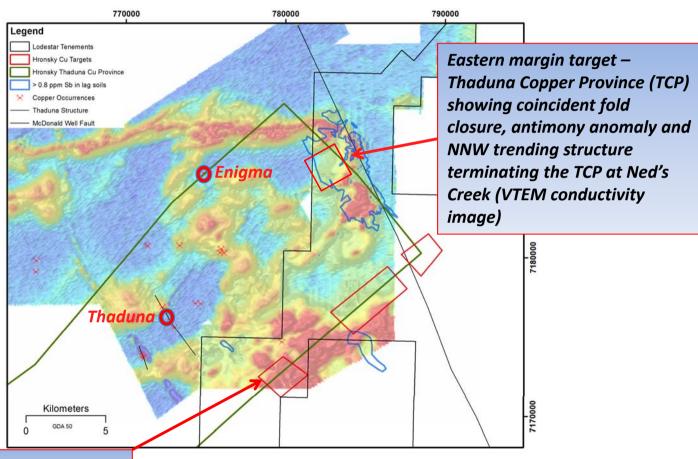
- Significant level of regional "smoke"
  - Adjacent tenement holder Sipa Resources has identified a >4km by 1.5km oxide copper "blanket" at its Enigma prospect plus five sulphide intersections in deeper drilling
  - At Thaduna, Ventnor Resources resource (7.9mt @ 1.8% Cu, VRX: ASX release 12 February 2012) is based on oxide mineralisation to a depth of 180m with primary mineralisation encountered to a depth of 450m, with the deposit remaining open at depth.
- LSR is targeting district-scale structures on the southern rift margin.
- Current Activity Sandfire Resources and Sipa Resources commenced drilling programs at the Thaduna and Enigma prospects, respectively, in June/July .



# **Ned's Creek base metals targets**



## Regional copper targets identified on district-scale basin margin structures

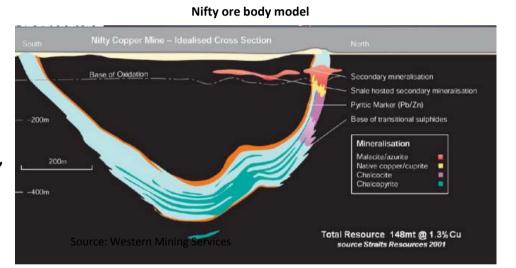


Southern margin targets – Thaduna Copper Province

## **Sediment Hosted Copper – The Prize**



- Sedimentary copper systems host significant metal concentrations
  - African copper belt, Mt Isa, Nifty
- Deposits occur at or near basin margins; basin fluids migrate laterally during folding, facilitated by major structures.
- Nifty deposit shows secondary copper dispersion above the base of oxidation, as seen at Sipa's Enigma prospect.
- Discovering the primary source of sediment hosted copper deposits requires a systematic approach.

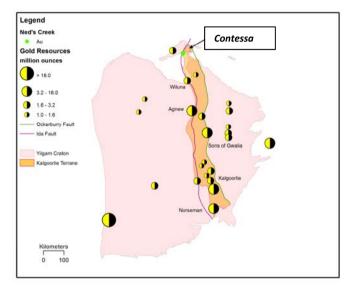


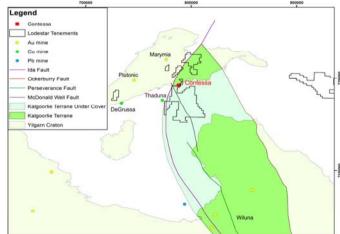
## **Contessa Gold Discovery**



- Greenfield discovery confirmed in 2013 within the Archaean Kalgoorlie Terrane sequence.
- 7km gold lag anomaly overlying Archaean greenstone.
- Covered by aircore drilling only, over 700m of strike.
- Very good results not yet followed up, and remains open in all directions.

# Regional tectonic setting of Contessa prospect and major gold deposits

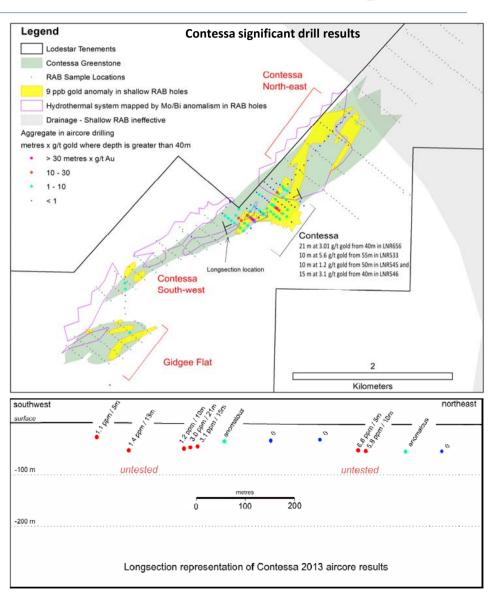




## **Contessa Results**



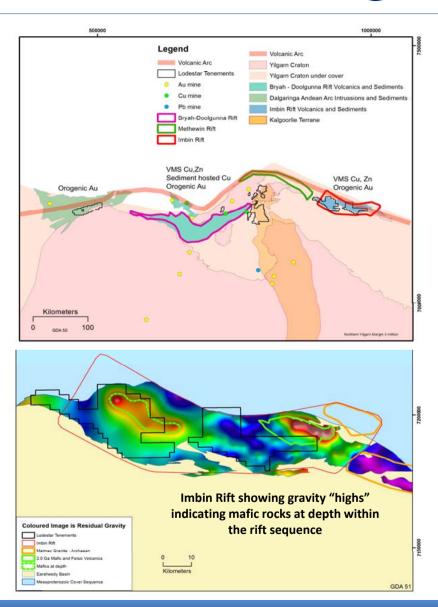
- 2013 discovery best intercepts of:
  - 21m @ 3.0g/t Au from 40m
  - 15m @ 3.1g/t Au from 40m
  - 10m @ 5.6g/t Au from 55m
  - 5m @ 6.6g/t Au from 55m
  - 10m @ 1.2g/t Au from 50m
     (LSR: ASX releases dated 18
     March 2013 & 4 June 2013)
- May 2014 auger program extended strike of Contessa to 2.1 km and of the mineralised system to greater than 5 km.
- RC drilling program planned to test Contessa and Gidgee Flat.
- A large gold system in a productive terrane.



# Imbin Rift - 80km strike length



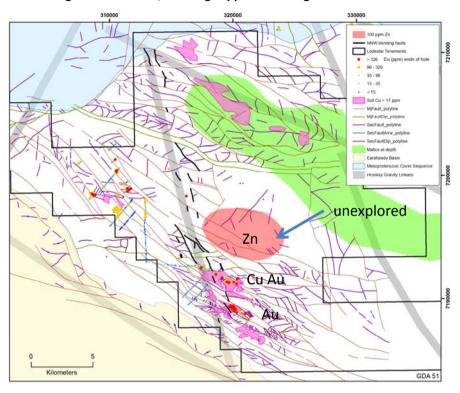
- Interpreted Back Arc setting along North Yilgarn margin.
- Imbin Rift defined by gravity anomalies, large volume of Bryah age felsic volcanics and probable mafic volcanics:
  - Prospective for volcanic hosted massive sulphide, sedimenthosted copper and orogenic gold targets.
- Strong regional copper, gold and zinc sediment-hosted geochemical anomalies supported by historic drilling.



# Imbin – High value walk up drill targets

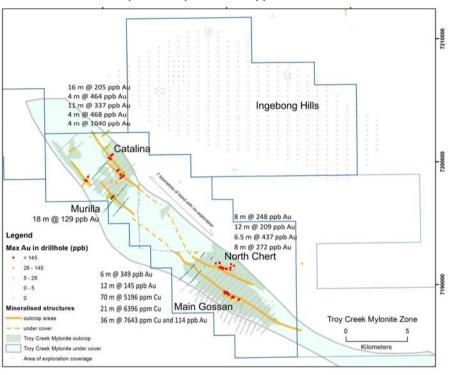


Imbin - regional structures, showing copper and zinc geochemical anomalies



 Main Gossan drilling returned highly encouraging copper results up to 70m @ 0.52% Cu, which justify further exploration.

# District-scale anomalous drill intercepts Data from open file reports – see Appendix and Table 1



- Main Gossan and North Chert prospects related to major NNW trending gravity structure.
- Structure independently verified by aeromagnetic data.
- Large GSWA zinc anomaly immediately north of historic Cu-Au exploration areas – Untested.

Source: Data compiled from open file reports

## **Lodestar – a very active explorer**



- Auger drill program at Contessa completed in June.
- Contessa RC drilling program planned to commence in second half of 2014 targeting extensions of the Contessa gold mineralisation.
- Currently in discussions with select parties seeking a JV on the Ned's Creek base metals to accelerate testing of copper exploration targets.
- Systematic assessment of high value base metal targets at Imbin.
- Actively developing potentially game changing exploration concepts along the northern Yilgarn margin.

## **Summary**



- The Bryah Basin is one of the most active and under explored exploration addresses in Australia.
- Lodestar's regional perspective has the ability to unlock significant potential. The reinterpretation of basin architecture has major implications for exploration targeting.
- Lodestar is well positioned to extract value in the next phase of Bryah Basin exploration.
  - one of the region's largest tenement holders with 2,200km² landholding on key basin margins
- Lodestar is actively progressing the Contessa gold discovery and Ned's Creek copper prospect.
- Imbin shows extensive Cu-Au anomalism consistent with a large mineral system and hosts a number of walk up base metal drill targets.
- Lodestar's sound asset base, in a exciting exploration terrane, provides shareholders with major leverage to exploration success.

# **Appendix - Imbin – Historical drill data**



# Historic regional drilling – Imbin, drill intercepts noted P15 (down hole lengths reported, true width not known)

			•	•	•	• ′			•				
Hole	Northing	Easting	RL	From	То	Au (ppb)	Cu (ppm)	Method	Dip	Azimuth	Total Depth(m)	Year	Company
99TCRB009	7191708	319444	not reported	16	24	248		RAB	-60	75	57	1999	Herald
99TCRB024B	7200274	310579	not reported	32	48	205		RAB	-60	40	49	1999	Herald
TC024	7191311	319620	not reported	0	12	209		RAB	-60	205	63	1990	Sons of Gwalia
TCD001	7191694	319140	not reported	108	114.5	437		Diamond	-60	203	149.9	1991	Aztec
TCRAB04120	7191353	320329	not reported	24	32	272		RAB	-60	188	56	2004	White Gold Mining
99TCRB029	7200228	310672	not reported	36	40	464		RAB	-60	40	49	1999	Herald
TCRC08-02	7189344	320041	not reported	91	127	114	7643	RC	-60	200	127	2008	Empire
TCRC09-06	7189326	320083	not reported	60	130		5196	RC	-60	205	130	2009	Empire
TCRC09-12	7198680	311467	not reported	47	58	337		RC	-60	52	70	2009	Empire
TCX22	7197080	310774	not reported	62	80	129		RAB	-60	50	80	2002	Palladium
TCX43	7199334	311292	not reported	38	42	468		RAB	-60	50	77	2002	Palladium
TCX54	7198969	311491	not reported	14	18	1040		RAB	-60	50	77	2002	Palladium
TCZRC06	7189241	320045	590	69	90		6396	RC	-60	25	150	2011	Zodiac
TCZRC16	7189237	320154	590	33	39	349		RC	-60	25	150	2011	Zodiac
TCZRC17	7189297	319852	590	138	150	145		RC	-60	25	150	2011	Zodiac

## JORC Code, 2012 Edition - Table 1

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Historic Drilling         <ul> <li>TCD-series diamond drilling completed by Aztec Mining in 1991. Composite samples collected at 3m intervals in precollar, all NQ core sampled on geological intervals. Sample weight, collection method not reported. Samples analysed by aqua regia digest/AAS (Au 0.001ppm DL) and aqua regia digest/AAS (Cu 2ppm DL). Core loss recorded.</li> <li>TC-series RAB drilling completed by Sons of Gwalia in 1990. Composite samples collected at 3m intervals over total depth of hole. Sample weight and collection method not reported. Samples analysed by pre-roast to remove graphite and AAS for Au (0.01ppm DL). Samples reporting greater than 0.01ppm Au were re-split and analysed as 1m samples by fire assay/AAS (Au 0.01ppm DL).</li> <li>99TCRB-series RAB drilling completed by Herald Resources in 1999. Composite samples were collected over 4m intervals over the entire hole. Sample weight and collection method not reported. Samples were analysed for Au by aqua regia digest/AAS (Au 1ppb DL).</li> <li>TCX-series RAB drilling completed by Palladium Resources in 2002. Samples were collected at 2m intervals and composited at 4m intervals over the entire hole. Poor sample recoveries are recorded. Sample weight and collection method not reported. Whole sample was pulverised at the laboratory and samples were analysed for Au by fire assay/ICP-OES 40g charge (Au 1ppb DL).</li> </ul> </li> <li>TCRAB-series RAB drilling was completed by White Gold Mining in 2004. Composite samples were collected from 4m intervals over the entire hole. Sample weight and collection method not reported. Selected composite</li> </ul>

Criteria	JORC Code explanation	Commentary	
		unkno reports series • Sampl	samples were analysed for Au by fire assay/ICPMS (Method FA25/MS Au 1ppb DL) and Cu by acid digest/AAS (Method AT/AAS Cu 1ppm DL).  TCRC-series RC drilling completed by Empire Resources in 2008 and 2009. The holes were sampled at 1m intervals and samples were collected by spearing 1m samples to create 4m composites over the entire hole. Zones in mineralisation were sampled as 1m splits by riffle splitting the individual 1m samples. Sample weight not reported. Samples were analysed for Au by fire assay/ICP-MS (Au 1ppb DL) and Cu by total acid digest/ICP-OES (Cu 1ppm DL).  TCZRC-series RC holes were drilled by Zodiac Resources in 2011. Holes were sampled at 1m intervals and 3m composite samples were created by spear sampling the 1m samples. Composite samples were submitted for analysis for Au by fire assay/ICP-MS 25g charge (Au 1ppb DL) and Cu (Cu 1ppm DL) total acid digest/ICP-OES. Sample weight is not reported. The stress to ensure sample representivity are generally were sample recoveries were noted for the TCD- & TCZRC-drilling in historic reports.  TCZRC-series were noted for the TCD- & TCZRC-drilling in historic reports.
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	air blast (Ra and diamor	been completed using several methods, regional rotary AB) drilling and prospect-scale reverse circulation (RC) and drilling.  TCD-series drill holes were drilled NQ standard tube, core was not oriented.  RAB drilling was generally open hole using a blade bit, with occasional use of hammer. Bit diameter not recorded in historical reports.  RC drilling – bit diameter and bit type (face sampling /cross-over) not recorded in historical reports.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure</li> </ul>	estimates o	except for TCD- & TCZRC-series drilling which recorded f sample recoveries; otherwise these details are not the historical reports.

Criteria	JORC Code explanation	Commentary
	<ul> <li>representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Not known as the measures are not recorded in historical reports.</li> <li>Relationship between sample recoveries and grade has not been determined. Information regarding poor core recovery and loss of fine material is recorded for TCD-series and TCZRC-series drilling. Information regarding sample bias is not reported in the historical reports.</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Core samples have been logged to geological boundaries; RAB chip samples have been logged on 1m intervals or greater; RC samples have been logged on 1m intervals. There is no geotechnical logging and the level of detail is insufficient to support Mineral Resource estimation, mining or metallurgical studies.</li> <li>Logging is qualitative in nature, there is no core photography.</li> <li>All core, RAB and RC drilling has been logged for geology.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Not known as core sampling details are not recorded in the historical reports.</li> <li>TCRC- &amp; TCZRC-series drilling utilized spear and riffle splitting, otherwise unknown as details are not recorded in historical reports.</li> <li>Sample preparation technique is unknown as these details are not recorded in the historical reports.</li> <li>Quality Control procedures not known, as these details are not recorded in the historical reports.</li> <li>Measures taken are unknown as these details are not recorded in the historical reports, there is no reference to field duplicate sampling.</li> <li>The sample size/weight is not recorded in the historical reports – however high grade gold is not evident in the analytical results.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>Gold has been determined by aqua regia/AAS or fire assay, generally regarded as appropriate method of analysis. Where copper has been determined by aqua regia digest/AAS it is generally regarded as a partial digest and may under estimate copper content. Total/four acid acid digest is considered to approach a total digest. Laboratory procedures used are poorly recorded in the historical reports.</li> <li>No geophysical tools or handheld XRF instruments were used in the drilling programs.</li> <li>Quality control measures are not documented in the historical reports other than TCZRC-series holes where a standard was inserted as every 25th sample. The standard samples are not identified in the</li> </ul>

Criteria	JORC Code explanation	Commentary
		sample ledger and there is no documentation of QC/QA outcomes.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>There has been no verification of significant intersections.</li> <li>There has been no twinning of mineralised drill holes.</li> <li>Data is entered onto handwritten logs for reports up until 2008, the procedures or verification for data entry is unknown. From 2008 data was digitally recorded, data entry procedures, data verification, data storage protocols are not recorded in historical reports.</li> <li>There has been no adjustment to assay data.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Original geological plans showing the local grid layout, AMG84 coordinates, topography, hole locations and historic tenement boundaries were scanned and geo-referenced using ArcGIS to determine MGA coordinates for each drill hole where MGA coordinates are not reported. Historic reports state that TCX-series; TCRAB-series; TCRC-series and TCZRC-series drill hole collars were located by handheld GPS. Only TCD-series holes recorded down hole survey data using an Eastman single shot camera. Drill hole locations have not been verified by Lodestar.</li> <li>A local grid system was used for drilling however there is no survey data recorded in historical reports to allow transformation into MGA coordinates. Drill hole collar coordinates are provided in the GDA94 MGA Zone 51 coordinate system</li> <li>There is no topographic control, orthophotographs of the area showing 2m contours were produced at 1:25 000 scale for mapping and location control during a period when MIM Exploration was involved, these plans are available as scanned images.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	Drilling has been completed on a district scale targeting geochemical anomalies, outcrops, magnetic targets and interpreted structural positions. Drill holes have been completed over several phases with a variable hole spacing, four prospect areas have been tested with relatively close but variable drill patterns averaging

Criteria	JORC Code explanation	Commentary
		<ul> <li>Sample compositing has been applied to all historic RAB and RC drilling.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>The drilling has been reconnaissance in nature, generally either shallow RAB or RC and no structural information was recorded. TCD-series diamond holes were not oriented and did not provide structural information. Hole collars were oriented based on local geological mapping and aeromagnetic data.</li> <li>No orientation based sampling bias has been identified, however there is geological complexity that cannot be resolved using the historical information.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Methods of ensuring sample security are not recorded in the historical reports.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Lodestar commenced a desktop review of historic drill data, no review or audit of sampling techniques and data has been attempted as there is insufficient information in the historical reporting.</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>Historical regional drilling was completed over E69/3255, a tenement currently under application by Lodestar Minerals. Part of the tenement lies within granted native title area Birriliburu People WC1998/068 and Lodestar is required to negotiate a heritage agreement with the Birriliburu People before the tenement can be granted. The conditions attached to any agreement cannot be anticipated at his time.</li> <li>The tenement is under application by Lodestar and there is no tenure at this time.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Previous exploration within the area of historic drilling includes geological mapping, surface sampling, auger drilling, aeromagnetic and ground magnetic surveys, electromagnetic surveys, RAB, RC and diamond drilling. Previous explorers include Sons of Gwalia, Aztec Mining, MIM Exploration, Herald-Palladium Resources and Empire Resources.</li> </ul>

Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Target deposit types include sediment-hosted base metal, sediment-hosted base metal-gold related to exhalative, replacement or structurally emplaced mineral systems and orogenic gold. The Troy Creek inlier represents a sequence of strongly folded and sheared carbonaceous shale, dolomitic and quartz sandstones, pelite, cherts and felsic intrusives and volcanic rocks. Locally the sequence is intruded by dolerites. The northern margin of the Troy Creek Beds is faulted against the Scorpion Group and unconformably overlain by the Bangemall Group. The southern margin is believed to be an unconformity with the overlying Yelma Formation. The depositional environment is thought to be an active basin margin – back arc rift.</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>Information is provided in Table 2. The information is included only to illustrate district-scale gold and copper anomalies identified in historic exploration.</li> <li>The information is incomplete because the area has been identified as prospective on the basis of voluminous open file historic reports. The gold and copper drill intercepts referred to are indications of a district-scale mineralising system that have been used in the process of area selection.</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Intercepts are reported as length-weighted arithmetic averages. No cut-off grade, high grade cutting or dilution constraints have been applied.</li> <li>High grade gold was not reported in drilling and aggregate intercepts were calculated using length weighted arithmetic averages. RC drilling used 3m or 4m composite samples for copper analysis irrespective of high or low grade results.</li> <li>Metal equivalent values are not reported.</li> </ul>
Relationship between mineralisation widths and intercept	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there</li> </ul>	<ul> <li>A relationship between mineralisation widths and intercept lengths has not been identified.</li> <li>The geometry of the mineralisation with respect to drill hole angle is not known at this early stage of exploration.</li> <li>The Exploration Results in this presentation are reported as down</li> </ul>

Criteria	JORC Code explanation	Commentary
lengths	should be a clear statement to this effect (eg 'down hole length, true width not known').	hole widths only and true widths are not known.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul> <li>No significant discovery to report, desktop compilation of historic data with examples of regional gold and copper anomalies intersected in drilling.</li> </ul>
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>Historic exploration drill results are used to provide evidence of low- level copper and gold anomalies at a district scale in a prospective geological setting.</li> </ul>
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	No other exploration data is available.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>No further work is planned, other than continuing interrogation of historical reports, pending the grant of the tenement.</li> </ul>